

Advances in VR for Veterans with SCI: EBSE

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Objectives

- Briefly review the problem of unemployment in veterans with spinal cord injury
- Introduce Evidence-Based Supported Employment
- Summarize findings from the Spinal Cord Injury Vocational Integration Program (SCI-VIP): Implementation and Outcomes study
- Introduce the SCI-VIP: Predictive Model Over Time for Employment (PrOMOTE) study



Unemployment Following SCI: a prevalent and serious problem

Average rate of any employment following spinal cord injury is approximately 35%.





Life Expectancy Reduced



Quality of life declines



Impact of Employment After SCI

	Unemployment	Employment
Life satisfaction		
Psychological Adjustment		
Functional Levels		
Social Integration		
Personal Growth		
Health		



Barriers to employment

- Disability characteristics
- Economic conditions
- Social stigma
- Architectural barriers
- Transportation
- Disincentives
- *Staff attitudes*
- *Lack of comprehensive, evidence-based vocational services*



More information is needed...



- Current data on employment rates among veterans
- Interventions to improve employment
 - lots of descriptive information on employment rates and predictors of employment
 - no controlled interventional trials, only case studies



Current status of VR in VA SCI Rehabilitation

- Rehab professionals acknowledge importance, but see it as occurring “*after*” rehabilitation (readiness?)
- VR professionals, usually employed by the state, are often “outside the loop”
 - Some (non VA) facilities have state VR counselors who attend team meetings
 - Some VA SCI centers have VR counselor assigned to them from another part of hospital



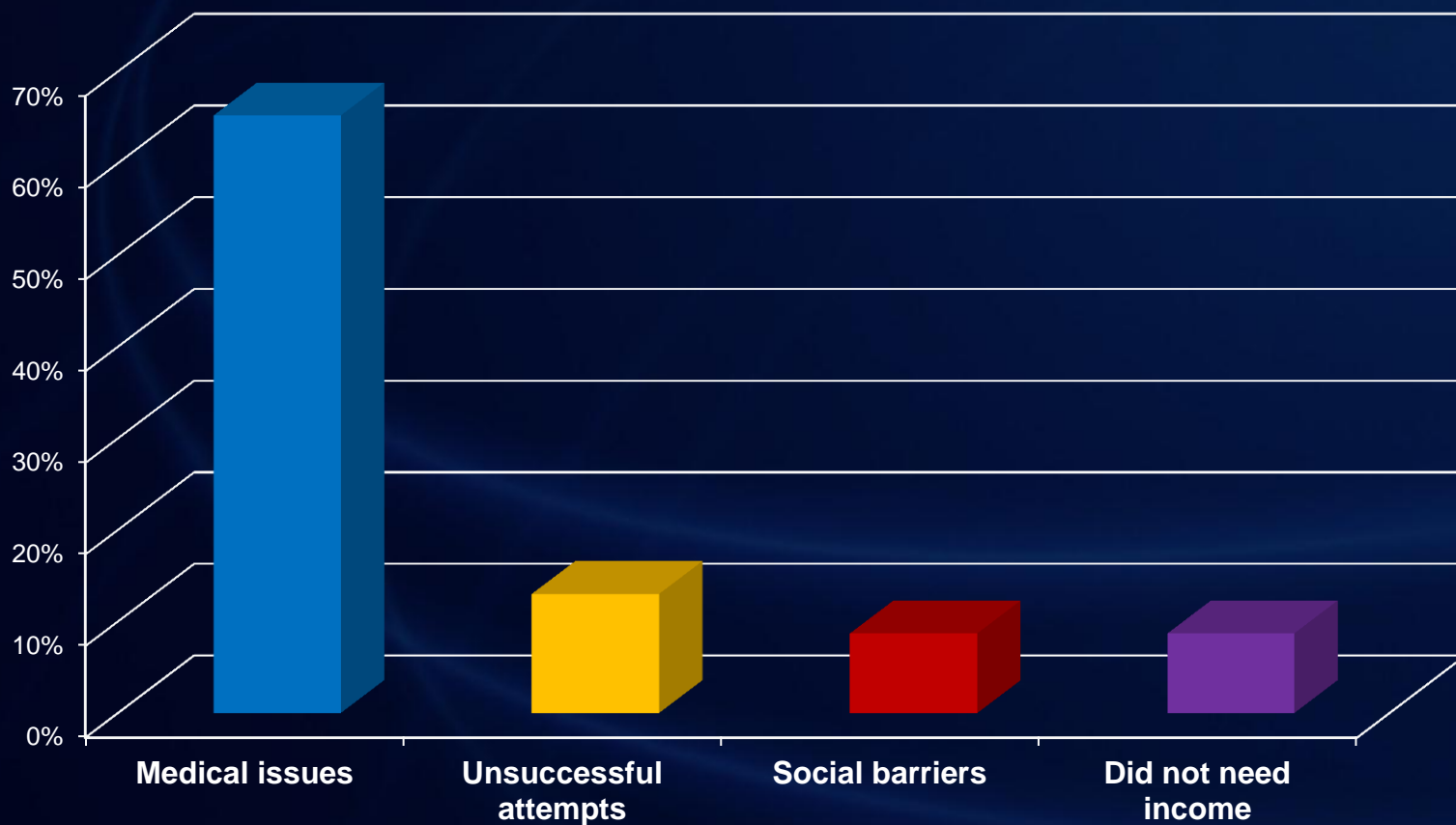
Employment and Vocational Rehabilitation Services Use Among Veterans with Spinal Cord Injury

(Ottomanelli et al, 2009)

- Method: Phone survey of 30 veterans at a VA Spinal Cord Injury Center in Southwest US
- Results:
 - 30% returned to work for some period of time (usually brief) after SCI
 - Only 10% (3 persons) were currently employed at time of survey



Reasons Cited by Veterans for Not Obtaining Employment



Use of Community Services by Persons with SCI for Return to Work

Services Not Used

80%

Services Used/ Success Rate

17%

3%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

Proportion of Persons

Awareness of services and injury severity

- Injury severity was significantly associated with awareness of services (more impaired were less aware)
- Veterans who were aware of community services were *over 5 times* more likely to return to work after their SCI.



What is Supported Employment (SE)?

An evidence-based practice that uses an *integrated* approach to help persons with serious disabilities find *competitive employment* in the *community* in their *chosen occupation*.



Principles of SE

1. Integrated treatment.
2. Rapid engagement (i.e. job search).
3. Competitive employment.
4. Belief that success is possible regardless of severity or type of disability. (zero exclusion)
5. Client preferences guide job finding.
6. Ongoing individualized job support.
7. Community based services.
8. Personalized benefits counseling.



	TRADITIONAL VR	SUPPORTED EMPLOYMENT
Caseload	150	25
Role of VRC	Case manager	Generalist
Timing of services	Sequential, referral to VR after conclusion of care episode	Simultaneous and integrated with other care
Inclusion/exclusion criteria	Often excludes co-occurring conditions	None
Assessment	Formal vocational +/- psychological testing PRIOR to services ("train and place")	Continuous "on the job" in real world settings ("place and train")
Follow up services	Reduced after specific time period	Indefinite based on client need



Previous applications of SE

- MULTIPLE RCTs (11) demonstrate success with persons with mental and intellectual disabilities (Bond et al., 2008a)
- Applied in both private and veteran population (Rosenheck & Mares, 2007)
- **Never** previously applied or tested among persons with physical disabilities
- EBSE=IPS model of Bond, Drake & Becker



- Where it got started: The Spinal Cord Injury Vocational Integration Program (SCI-VIP)
 - Background
 - SCI-VIP results
- Where we are going now: The PrOMOTE study
 - Aims and Objectives
 - Methods

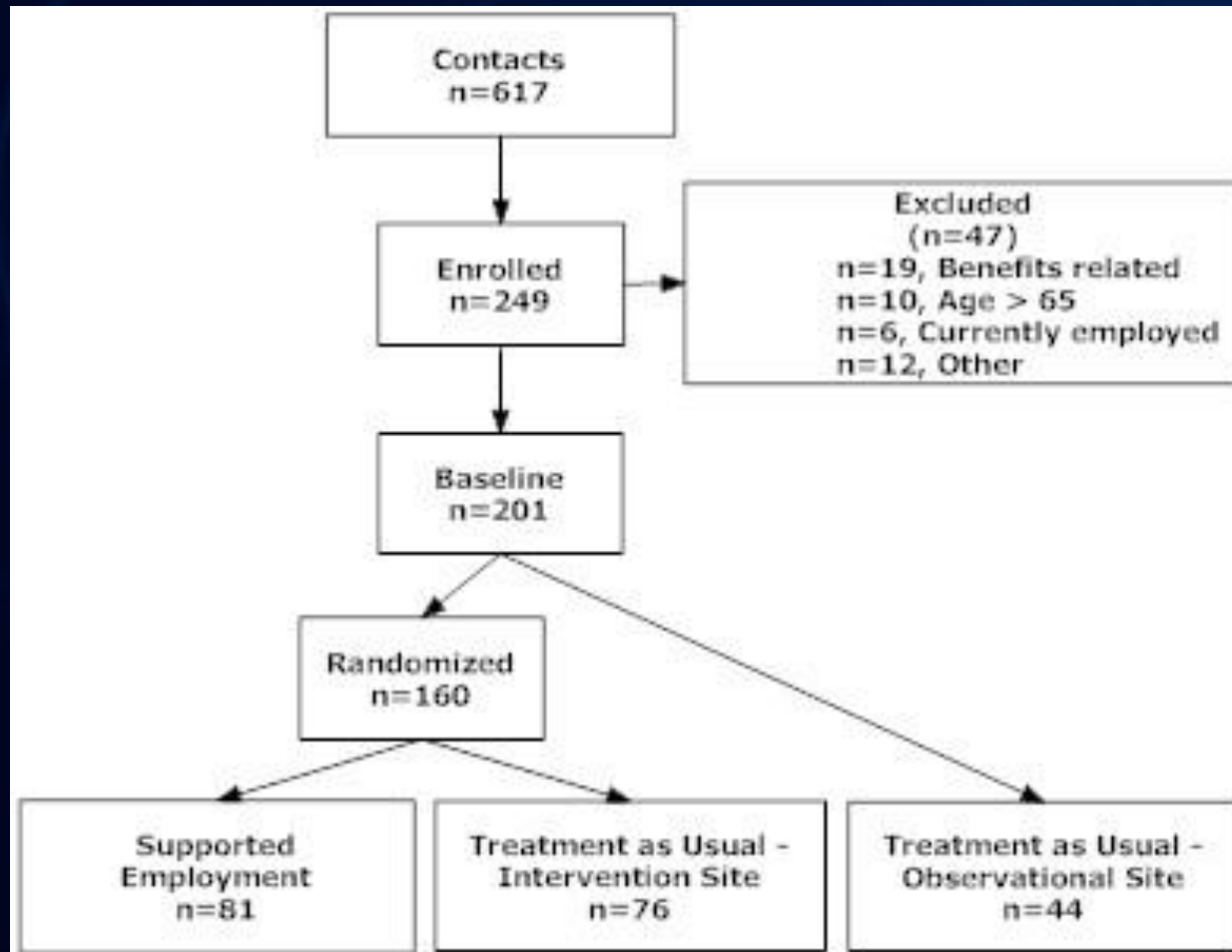


Background: SCI-VIP

- VA RR&D funded 2005-2010 #B3773R
- First and only study translating Supported Employment (SE) into a population with physical disabilities.
- Introduced evidence-based SE services into SCI continuum of care and compare to standard VR care
- First study to demonstrate effectiveness of SE procedures to help Veterans with SCI return to work



SCI-VIP CONSORT Graph



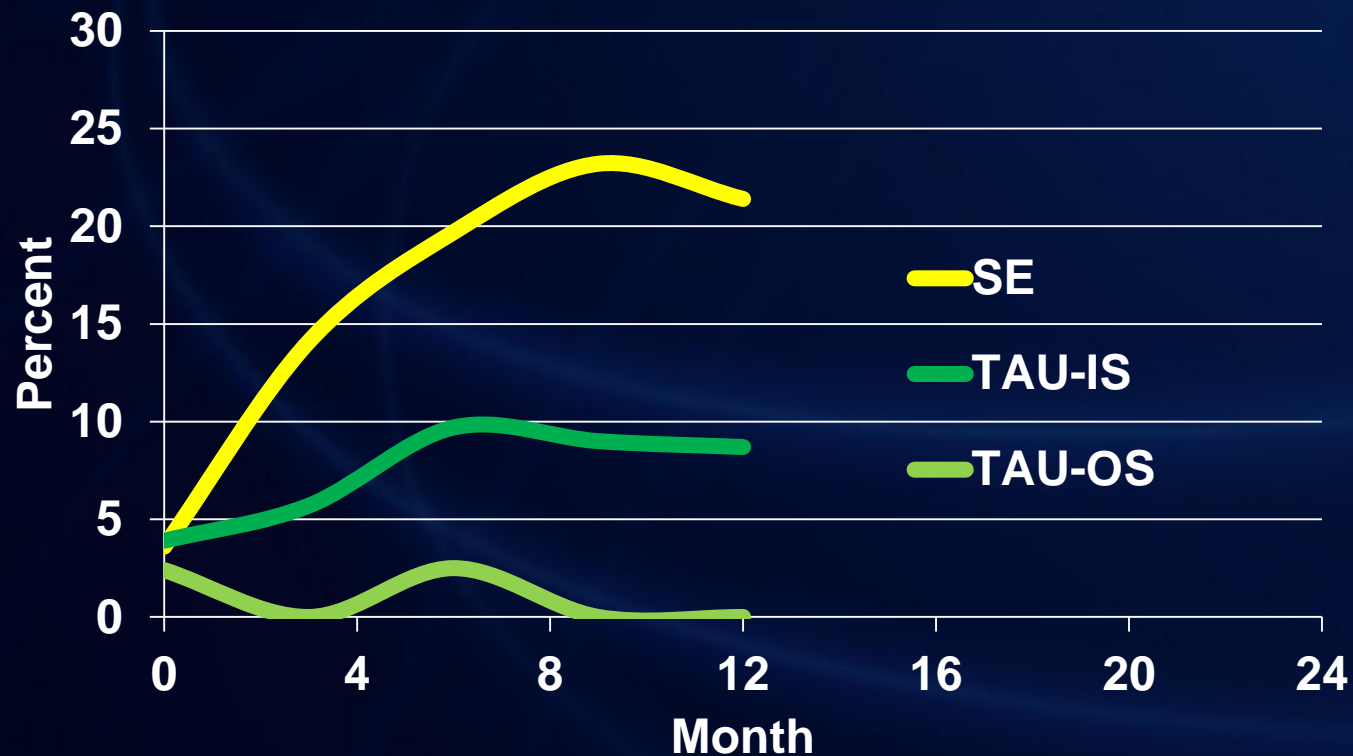
Medical History

Parameter	Total
Cause of Injury (%)	
MVA	39.3
Fall	13.9
GSW	16.4
Avg. Time Since Injury, yrs.	12.3 ± 11.2
Neurological & ASIA (%)	
High Tetraplegia (C1-4), ASIA A,B,C	17.4
Low Tetraplegia (C5-8), ASIA A,B,C	9.5
Paraplegia, ASIA A,B,C	38.3
ASIA D/E	33.8

*** P<0.05, all groups; † p<0.05, SE vs. TAU-IS**



% Subjects answering 'During this time period, did you have a paying job?'



Competitive Employment Rate Comparison

	SE	TAU-IS	TAU-OS
Total Subjects Enrolled	81	76	44
Total Jobs	50	21	1
Unique Subjects w/Job	21	8	1
Employment Rate (95% CI) (SE vs alternatives)	25.9 *† (17.6-36.5)	10.5 (3.6-17.4)	2.3 (0.0-12.9)
Rate Ratio	--	2.5	11.4
95% CI	--	(1.1-5.9)	(2.1-238.4)

* P<0.05, all groups; † p<0.05, SE vs. TAU-IS



Summary: SE effectiveness

- Veterans who received SE more likely to obtain competitive employment
 - 2.5x more than TAU-IS group
 - Over 10x more than TAU-OS group
- Having SE available in SCI centers appears to have elevated the awareness and attention to vocational issues and improved outcomes



The Predictive Outcomes Model of Time for Employment (PrOMOTE)

- VA Rehabilitation Research & Development funded (#O7814R)
- Service Directed Project
- 6/2010 -7/2015
- Continuation and extension of the SCI-VIP study



Problem statement:

PrOMOTE

- **No current published employment rates for representative sample of Veterans with SCI**
- **Need more information about how the level and intensity of SE or vocational services received by veterans with SCI impacts employment outcomes.**
- **No longitudinal studies examining employment outcomes in veterans with SCI.**



SCI-VIP: PrOMOTE Continuation Allows:

- Collect employment data for a representative sample of Veterans with SCI
- Develop longitudinal predictive models of sustained success
- Extend cost effectiveness analysis
- Expand qualitative aspect



PrOMOTE Study Sites



Palo Alto



St Louis



Cleveland



Richmond



Dallas



Houston



Tampa



What is SE in SCI-VIP?

- **Supported Employment (SE)**
 - An *integrated* approach to help persons with serious disabilities find *competitive employment* in the *community* in their *chosen occupation*
- Delivered by Vocational Rehabilitation Specialist (VRS) *on SCI team.*



Study aims

1. Establishing employment rate for Veterans w/ SCI population at large
2. Understanding how level and intensity of SE services relate to outcomes



Employment Data for Veterans with SCI



- **Goal: Large national database of veterans with SCI**
 - employment
 - medical
 - functional
 - psychosocial data
- **Method: Collect Baseline interviews on Veterans with SCI under age 65**



SE Services and Outcomes



- Goal: Understand how level, intensity, and timing of services affect outcomes
- Method:
 - Follow original SCI-VIP cohort over time
 - Enroll in SE program original SCI-VIP cohort (n=70) AND NEW eligible participants (n=210) follow for 24 months



Fidelity Monitoring

What: A way to measure adherence to SE model

When: Every 6 months

Who: 2 national raters

How: Site Visits and use of the fidelity rating scale

Why: to reach *high* SE implementation



Method

1. Enroll as many Veterans with SCI under age 65 for data collection on Employment and QoL
2. Offer SE to those who are unemployed, live w/in 100 mi and are interested in work. Follow this group for 2 years.



National Team

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